AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for identifying an agent useful for treating an angiogenesis mediated disorder, comprising:

a) exposing an agent to Human Protein Tyrosine Phosphatase - beta (HPTPbeta) and Vascular Endothelial Growth Factor Receptor - Type 2 (VEGFR2);

b) determining whether the agent modulates HPTPbeta activity and VEGFR2 activity, and

c) identifying those agents that modulate HPTPbeta activity and VEGFR2 activity as useful for treating an angiogenesis mediated disorder;

wherein the angiogenesis mediated disorder is selected from:

~~(a)~~ (i) disorders, diseases, and/or unwanted conditions characterized by unwanted or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, sickle cell anemia, syphilis, pseudoxanthoma elasticum, Paget's disease, vein or artery occlusion, carotid obstructive disease, chronic uveitus, chronic vitritis, mycobacterial infections, Lyme's disease, systemic lupus erythematosis, retinopathy of prematurity, Eales' disease, Behcet's disease, presumed ocular histoplasmosis, Best's disease, myopia, optic pits, Stargardt's disease, pars planitis, chronic retinal detachment, hyperviscosity syndromes, toxoplasmosis, proliferative vitroeretinopathy, Crohn's disease, ulcerative colitis, psoriasis, sarcoidosis, rheumatoid arthritis, hemangiomas, Osler-Weber-Rendu disease, hereditary hemorrahic telangiectasia, solid

tumors, blood borne tumors, and acquired immune deficiency syndrome; or

~~(b)~~ (ii) disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, peripheral vascular disease, and tissue repair where tissue has been damaged by trauma, surgical procedures, irradiation, laceration, toxic chemicals, viral infection, bacterial infection, non-healing wounds, or burns, or where tissue has been damaged by arthritis or osteoporosis;

wherein the amino acid sequence of HPTPbeta is at least ~~about~~ 95% homologous to the amino acid sequence of SEQ ID NO: 2, 9, 15, or 16; and

wherein the amino acid sequence of VEGFR2 is at least ~~about~~ 95% homologous to the amino acid sequence of SEQ ID NO: 6 or 11.

2. (Original) The method of claim 1 wherein HPTPbeta and VEGFR2 are expressed in a cell.

3. (Currently Amended) The method of Claim 1, wherein the amino acid sequence of HPTPbeta is at least ~~about~~ 97% homologous to the amino acid sequence of SEQ ID NO: 2, 9, 15, or 16; and the amino acid sequence of VEGFR2 is at least ~~about~~ 97% homologous to the amino acid sequence of SEQ ID NO: 6, or 11.

4. (Cancelled)

5. (Currently Amended) The method of Claim 3, wherein the amino acid sequence of HPTPbeta has the amino acid sequence ~~corresponding to the amino~~

~~acid sequence~~ of SEQ ID NO: 2, 9, 15, or 16; and the amino acid sequence of VEGFR2 has the amino acid sequence ~~corresponding to the amino acid sequence~~ of SEQ ID NO: 6, or 11.

6. (Cancelled)

7. (Original) The method of Claim 1, wherein measuring activity of VEGFR2 comprises measuring changes in free intracellular [Ca^{2+}] in response to a VEGFR2 ligand.

8. (Currently Amended) A method for identifying an agent useful for treating an angiogenesis mediated disorder, comprising:

a) exposing an agent to Human Protein Tyrosine Phosphatase - beta (HPTPbeta), Vascular Endothelial Growth Factor Receptor - Type 2 (VEGFR2), and Receptor Tyrosine Kinase Tie-2 (Tie-2);

b) determining whether the agent modulates HPTPbeta activity, VEGFR2 activity and Tie-2 activity, and

c) identifying those agents that modulate HPTPbeta activity, VEGFR2 activity, and Tie-2 activity as useful for treating an angiogenesis mediated disorder;

wherein the angiogenesis mediated disorder is selected from:

~~(a)~~ (i) disorders, diseases, and/or unwanted conditions characterized by unwanted or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, sickle cell anemia, syphilis, pseudoxanthoma elasticum, Paget's disease, vein or artery occlusion, carotid obstructive disease, chronic uveitus, chronic vitritis, mycobacterial infections, Lyme's disease, systemic lupus erythematosis, retinopathy of prematurity, Eales' disease, Behcet's disease, presumed ocular histoplasmosis, Best's disease,

myopia, optic pits, Stargardt's disease, pars planitis, chronic retinal detachment, hyperviscosity syndromes, toxoplasmosis, proliferative vitroeretinopathy, Crohn's disease, ulcerative colitis, psoriasis, sarcoidosis, rheumatoid arthritis, hemangiomas, Osler-Weber-Rendu disease, hereditary hemorrahic telangiectasia, solid tumors, blood borne tumors, and acquired immune deficiency syndrome; or

~~(b)~~ (ii) disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, peripheral vascular disease, and tissue repair where tissue has been damaged by trauma, surgical procedures, irradiation, laceration, toxic chemicals, viral infection, bacterial infection, non-healing wounds, or burns, or where tissue has been damaged by arthritis or osteoporosis;

wherein the amino acid sequence of HPTPbeta is at least ~~about~~ 95% homologous to the amino acid sequence of SEQ ID NO: 2, 9, 15, or 16;

wherein the amino acid sequence of VEGFR2 is at least ~~about~~ 95% homologous to the amino acid sequence of SEQ ID NO: 6 or 11; and

wherein the amino acid sequence of Tie-2 is at least ~~about~~ 95% homologous to the amino acid sequence of SEQ ID NO: 8 or 13.

9. (Original) The method of claim 8 wherein HPTPbeta, VEGFR2, and Tie-2 are expressed in a cell.

10. (Currently Amended) The method of Claim 8, wherein the amino acid sequence of HPTPbeta is at least ~~about~~ 97% homologous to the amino acid sequence of SEQ ID NO: 2, 9, 15, or 16; the amino acid sequence of VEGFR2 is at least ~~about~~ 97% homologous to the amino acid sequence of SEQ ID NO: 6, or 11; and the amino acid sequence of Tie-2 is at least ~~about~~ 97% homologous to the amino acid sequence of SEQ ID NO: 8, or 13.

11. (Cancelled)

12. (Currently Amended) The method of Claim 10, wherein the amino acid sequence of HPTPbeta has the amino acid sequence ~~corresponding to the amino acid sequence~~ of SEQ ID NO: 2, 9, 15, or 16; the amino acid sequence of VEGFR2 has the amino acid sequence ~~corresponding to the amino acid sequence~~ of SEQ ID NO: 6, or 11; and the amino acid sequence of Tie-2 has the amino acid sequence ~~corresponding to the amino acid sequence~~ of SEQ ID NO: 8, or 13.

13. (Cancelled)

14. (Original) The method of Claim 8, wherein measuring activity of VEGFR2 comprises measuring changes in free intracellular $[Ca^{2+}]$ in response to a VEGFR2 ligand.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (New) The method of Claim 1, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by unwanted

or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, Crohn's disease, ulcerative colitis, psoriasis, sarcoidosis, rheumatoid arthritis, solid tumors, and blood borne tumors.

19. (New) The method of Claim 18, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by unwanted or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, Crohn's disease, ulcerative colitis, and rheumatoid arthritis.

20. (New) The method of Claim 1, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, peripheral vascular disease, and tissue repair where tissue has been damaged by trauma, surgical procedures, irradiation, laceration, toxic chemicals, viral infection, bacterial infection, non-healing wounds, or burns.

21. (New) The method of Claim 20, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, and peripheral vascular disease.

22. (New) The method of Claim 8, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by unwanted or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, Crohn's disease, ulcerative colitis, psoriasis, sarcoidosis, rheumatoid arthritis, solid tumors, and blood borne tumors.

23. (New) The method of Claim 22, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by unwanted

or elevated angiogenesis selected from the group consisting of diabetic retinopathy, macular degeneration, Crohn's disease, ulcerative colitis, and rheumatoid arthritis.

24. (New) The method of Claim 8, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, peripheral vascular disease, and tissue repair where tissue has been damaged by trauma, surgical procedures, irradiation, laceration, toxic chemicals, viral infection, bacterial infection, non-healing wounds, or burns.

25. (New) The method of Claim 24, wherein the angiogenesis mediated disorder is selected from disorders, diseases, and/or unwanted conditions characterized by wanted or reduced angiogenesis selected from the group consisting of skeletal muscle ischemia, myocardial ischemia, stroke, coronary artery disease, and peripheral vascular disease.